

What is claimed is:

1. A seat track assembly adapted to mount a seat to a floor of an automotive vehicle and provide selective forward and rearward adjustment of the seat relative to the floor among a plurality of seating positions, said seat track assembly comprising:

5 an inner track fixedly secured to the floor of the vehicle and having a flattened bearing surface extending longitudinally along said inner track;

an outer track fixedly secured to the seat and slidably coupled to said inner track to allow selective sliding adjustment of the seat relative to the floor of the vehicle, said outer track including an arcuate bearing surface extending longitudinally along said outer track and  
10 opposing said flattened bearing surface; and

a plurality of cylindrical bearings positioned between said flattened bearing surface of said inner track and said arcuate bearing surface of said outer track to accommodate torsional loading and movement of said outer track with respect to said inner track while facilitating said selective sliding adjustment of the seat relative to the floor.

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2. A seat track assembly as set forth in claim 1 wherein said inner track includes two upright sides and a cross member extending laterally therebetween to define a U-shaped channel, said sides each having a distal end opposite said cross member.

20 3. A seat track assembly as set forth in claim 2 wherein said inner track includes an outer edge extending laterally outwardly from each of said distal ends of each of said sides.

4. A seat track assembly as set forth in claim 3 wherein said flattened bearing surface is formed in said outer edge and extends longitudinally with respect to said inner track.

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5. A seat track assembly as set forth in claim 4 wherein said inner track includes an outer wall extending perpendicularly from each of said outer edges to define a flange.

6. A seat track assembly as set forth in claim 5 wherein said inner track includes a  
30 plurality of teeth formed along said outer wall, each of said plurality of teeth disposed longitudinally with respect to said inner track to define each of the plurality of seating positions.

7. A seat track assembly as set forth in claim 6 wherein said outer track includes two upright sides and a base extending laterally between said sides to define a U-shaped cross section, said sides of said outer track each including a distal end.

5 8. A seat track assembly as set forth in claim 7 wherein said base of said outer track includes a concavity formed therein, said concavity protruding toward said inner track to define said arcuate bearing surface opposing said flattened bearing surface.

9. A seat track assembly as set forth in claim 8 wherein said outer track includes a hook  
10 formed on each of distal ends of said sides of said outer track, said hook engaged with said flange of said inner track to prevent vertical separation of said outer track from said inner track.

10. A seat track assembly as set forth in claim 9 including a spacer extending over said  
15 hook between said outer track and said inner track for reducing rattle between said outer track and said inner track.

11. A seat track assembly as set forth in claim 10 including a bearing guide for retaining  
20 said plurality of bearings between said arcuate and flattened bearing surfaces.

12. A seat track assembly as set forth in claim 11 including a latch mechanism operatively  
coupled to said outer track and lockingly engagable with said plurality of teeth of said inner  
track to selectively lock the seat in one of the plurality of seating positions.

13. A seat track assembly as set forth in claim 12 wherein said latch mechanism includes a  
25 latch plate having a plurality of apertures for lockingly engaging said plurality of teeth to  
prevent sliding movement of said outer track relative to said inner track, said latch plate  
movably supported on said outer track for movement between a locked position, wherein said  
plurality of apertures are engaged with said plurality of teeth, and an unlocked position,  
30 wherein said plurality of apertures are disengaged with said plurality of teeth to allow sliding  
movement of said outer track relative to said lower track.

14. A seat track assembly as set forth in claim 13 including a spring energized between  
said outer track and said latch plate for biasing said latch plate toward said locked position.